

CLAIMS :

Cancel the claims of record (1 to 20) and substitute new claims 21 to 45 as follows:

21. A smart hard-disk drive (sHDD), comprising:
 - a head-disk assembly, said head-disk assembly further comprising at least a disk platter, at least a head and a rotor;
 - a processing block;
 - an interface block;
 - whereby said sHDD can directly communicate with at least two types of multimedia devices; during communication, data are exchanged between said disk platter and a selected multimedia device through said interface block under the control of said processing block.
22. The sHDD according to claim 21, wherein said two types of multimedia devices are selected from a group of device types consisting of digital recording device and digital content player.
23. The sHDD according to claim 21, wherein said two types of multimedia devices are selected from a group of device types consisting of digital still camera, digital camcorder, digital audio player, and digital video player.
24. The sHDD according to claim 21, wherein said interface block has a serial data interface.
25. The sHDD according to claim 24, wherein said serial data interface is selected from a group of interfaces consisting of USB and IEEE 1394.
26. The sHDD according to claim 21, further comprising a host controller, whereby said host controller controls data communication between said sHDD and said selected multimedia device.
27. The sHDD according to claim 26, wherein said host controller complies with USB host or USB on-the-go (OTG) standards.
28. The sHDD according to claim 21, further comprising:
 - a servo block and a read-channel block for said head-disk assembly;

a motherboard, wherein said servo block, said read-channel block, said processing block and at least a portion of said interface block are located on said motherboard.

29. The sHDD according to claim 21, further comprising no screen.
30. The sHDD according to claim 21, further comprising a battery.
31. The sHDD according to claim 21, wherein said head-disk assembly is housed in an "L"-shaped shell.
32. The sHDD according to claim 21, wherein files for different types of multimedia devices are placed into different directories on said disk platter.
33. A smart hard-disk drive (sHDD), comprising:
 - a head-disk assembly, said head-disk assembly further comprising at least a disk platter, at least a head and a rotor;
 - a processing block;
 - an interface block;
 - whereby said sHDD can directly communicate with at least a multimedia device with at least a playing function; during communication, data are transferred from said disk platter to said multimedia device through said interface block under the control of said processing block.
34. The sHDD according to claim 33, wherein said multimedia device is selected from a group of devices consisting of digital audio player, and digital video player.
35. The sHDD according to claim 33, wherein said interface block has a serial data interface.
36. The sHDD according to claim 33, further comprising a host controller, whereby said host controller controls data communication between said sHDD and said selected multimedia device.
37. The sHDD according to claim 33, further comprising:
 - a servo block and a read-channel block for said head-disk assembly;

a motherboard, wherein said servo block, said read-channel block, said processing block and at least a portion of said interface block are located on said motherboard.

38. An HDD-based digital video-recording device, comprising:

an image sensor;

an interface block;

a holding structure;

whereby said holding structure can hold a removable hard-disk drive;
and said video-recording device can store captured image data into said removable hard-disk drive directly through said interface block and without through a videotape or an optical disc.

39. The HDD-based digital video-recording device according to claim 38, further comprising a DRAM-based buffer memory.

40. The HDD-based digital video-recording device according to claim 38, further comprising a image data-compression block.

41. A data-exchange host apparatus, comprising:

a first serial interface, whereby said first interface can be connected with a hard-disk drive;

a second serial interface, whereby said second interface can be connected with a multimedia device;

a host controller, whereby said host controller can control the data communication between said hard-disk drive and said multimedia device through said first and second serial interfaces.

42. The data-exchange host apparatus according to claim 41, wherein said serial data interface is selected from a group of interfaces consisting of USB and IEEE 1394.

43. An HDD-based portable electronic system, comprising:

a head-disk assembly, said head-disk assembly further comprising at least a disk platter, at least a head, and a rotor;
a servo block and a read-channel block for said head-disk assembly;
a system processing block and a system memory block;
a motherboard, wherein said servo block, said read-channel block, said system processing block and system memory block are located on said motherboard.

44. The HDD-based portable electronic system according to claim 43, further comprising only one shell with mechanical strength between said disk platter and at least one external surface of said portable electronics system.
45. The HDD-based portable electronic system according to claim 43, wherein said portable electronic system is an HDD-based personal digital assistant (PDA).